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as claimed in claim 85, wherein the catalyst to be employed in said polymerization is less than 1000 ppm by weight based on total amount to be fed.

### REMARKS

#### A. Explanation of Amendments and Status of Pending Claims

Applicants have amended the abstract in response to the Examiner's objection that the original abstract was too long. A copy of the revised abstract is provided on the last page of this response, on a separate sheet of paper, in accordance with the Examiner's instructions.

Claims 1-7, 11-12, 21-22, 26-27, 31-37, 39-40, 46-47, 55-56, 59-61, 71-73, 82-83, 85, and 86 are pending. Claims 1, 4, and 11 have been canceled. Claims 1 and 4 have been rewritten as claim 87. Claims 11 and 15 have been rewritten as claim 88.

Support for claims 87 and 88 is found generally throughout the specification and claims. For example, the claim element "a proportion of monomers having two or more continuous chains ( $n \geq 2$ ) of lactones less than 37.4% (area by GPC)" recited in claim 87 finds support in Example 2 of Table 1 on page 239 of the specification. Furthermore, the claim element "0.3 to less than 1.0 mol of polymerized lactone monomer being polymerized by ring-opening with respect to 1 mol of hydroxyalkylmethacrylate" finds support on page 46, lines 6-12 of the specification. Finally, support for "the content of the lactone monomer in the composition is 0-10% by weight" as recited in claims 87 and 88 is provided by claims 4 and 15, which were combined with claims 1 and 11, respectively.

Claim 71 was amended to recite, *inter alia*, "said composition obtained by a ring-opening polymerization of less than 1 mole of a lactone monomer with respect to 1 mole of polymerizable unsaturated monomer containing a carboxylic group." Support for this

amendment is found in the last paragraph of page 42 of the specification.

Claims 1-7, 11-12, 21-22, 26-27, 31-37, 39-40, 46-47, 55-56, 59-61, 71-73, 82-83, and 85-86 were rejected under 35 U.S.C. §112, ¶2, as being indefinite for failing to point out and distinctly claim the subject matter which Applicant regards as the invention. The Examiner has objected to the phrases “curable melamine-type”, “composite-type”, “modified by”, “characterized by”, in claims 1-7, 11-12, 21-22, 26-27, 31-37, 39-40, 46-47, 55-56, 59-61, 71-73, 82-83, and 85-86. These claims have been amended so that they no longer contain these phrases.

Claim 7 was also objected to for reciting the phrase “such as.” Claim 7 has been amended such that it no longer contains this phrase.

Claim 40 was amended to recite , *inter alia*, “particles having a particle diameter of not more than 1  $\mu\text{m}$ ”. Support for this amendment is found on page 144, second line from the bottom.

Numerous minor typographical and grammatical errors in the pending claims were corrected as well. Applicants respectfully maintain that no new matter was added by any of the amendments described above.

Claims 1-7, 11-12, 71-73, 82-83, and 85-86 were rejected under 35 U.S.C. §102(a) as being anticipated by JP 016965 (“JP ‘965”). Claims 1-7, 11-12, 21-22, 31-37, 55-56, 71-73, 82-83, and 85-86 were rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent 4,916,254 to Watanabe et al. (“Watanabe”).

B.        Applicants’ Invention is Patentable  
             Over the Cited References

Applicants respectfully traverse the rejection of claims 1-7, 11-12, 71-73, 82-83, and 85-86 under 35 U.S.C. §102(a) as being anticipated by JP ‘965. Applicants also respectfully

traverse the rejection of claims 1-7, 11-12, 21-22, 31-37, 55-56, 71-73, 82-83, and 85-86 under 35 U.S.C. §102(b) as being anticipated by Watanabe. Briefly, neither JP '965 nor Watanabe teach, disclose or suggest all of the claimed elements in Applicants' claims.

JP '965 is directed to a "method for producing a hydroxyalkylacrylic ester or methacrylic acid ester modified with caprolactone" [abstract]. The method comprises "a process 1 for subjecting lactone and a hydroxyalkylacrylic ester or a hydroxyalkylmethacrylic acid ester to an addition reaction in the presence of an organometallic compound catalyst, a polymerization inhibitor and an antioxidant at 70 – 120 deg C" [abstract].

Paragraph [0008] of JP '965 further discloses that "the ratio (lactone: a hydroxyalkyl acrylic ester or methacrylic ester)... [is in] a mole ratio —usually—1:1-20:1—it is in the range of 1:1-10:1 preferably." [See attached copy of computer translation of JP '965 obtained from the Japanese Patent Office Website<sup>1</sup>].

Watanabe is directed to a process for producing  $\epsilon$ -caprolactone-modified hydroxyalkyl acrylate. The process comprises "synthesizing an  $\epsilon$ -caprolactone-added hydroxyalkyl acrylate or methacrylate and then copolymerizing the resulting monomer to synthesize a lactone-modified acrylic polyol..." [col. 4, lines 7-10].

Watanabe limits the composition range for the  $\epsilon$ -caprolactone by disclosing that " $\epsilon$ -caprolactone is used in an amount of 1-20 mol, preferably 1-5 mol, per mol of the hydroxyalkyl acrylate or hydroxyalkyl methacrylate" [col. 5, lines 66-68]. Watanabe does not teach any compositions outside of these specified ranges.

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<sup>1</sup> Applicants will obtain and provide a certified translation of JP '965 if the Examiner so requests. The method that Applicants used to obtain this computer translation is explained in detail in Appendix 1 of this response (page 19). We have no reason to doubt that the computer translation of the part of paragraph [0008] relied upon in this response is a fair representation of what is stated in the corresponding portion of the Japanese version of paragraph [0008], but we obviously cannot certify its accuracy at this time.

However, the mole ratios of lactone:hydroxyalkyl(meth)acrylate recited in Applicants' claims are outside of the ranges disclosed by JP '965 and Watanabe. For example, Applicants' claims 87 and 88 recite, in relevant part,

87. A hydroxyalkyl(meth)acrylate composition comprising a small amount of lactones, said composition comprising:  
0.3 to less than 1.0 mol of polymerized lactone monomer being polymerized by ring-opening with respect to 1 mol of hydroxyalkyl(meth)acrylate, wherein the content of the lactone monomer in the composition is 0-10% by weight, and a proportion of monomers having two or more continuous chains ( $n \geq 2$ ) of lactones less than 37.4% (area by GPC),...
88. A method for the preparation of a hydroxylalkyl(meth)acrylate composition comprising a small amount of lactones, said method comprising:  
reacting, per mole of hydroxyalkyl(meth)acrylate, 0.3 to less than 1.0 mol of a lactone by ring-opening polymerization...

Similar claim elements regarding the ratio of lactone:hydroxyalkyl(meth)acrylate are also found in Applicants' independent claims 71, 82, and 85.

For these reasons, JP '965 and Watanabe do not teach, disclose or suggest all of the claimed elements of Applicants' independent claims 71, 82, 85, 87, and 88. Accordingly, JP '965 and Watanabe do not anticipate these claims. MPEP §2131. For the same reasons, JP '965 and Watanabe do not anticipate dependent claims 2-7, 12, 21-22, 31-37, 55-56, 72-73, 83, and 86. Reconsideration and withdrawal of the rejection under 35 U.S.C. §102(a) is respectfully requested.

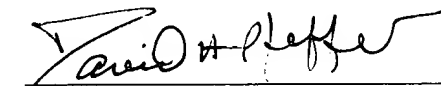
**CONCLUSION**

For the foregoing reasons, it is respectfully submitted that the pending claims are in condition for allowance. In the event that a telephone conference would facilitate examination of this application in any way, the Examiner is invited to contact the undersigned at the number provided.

Respectfully submitted,  
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Dated: January 9, 2003

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**Appendix 1**

Applicants obtained a computer translation of JP-016965 by using the Japanese Patent Office website. Applicants followed these steps:

- Applicants' set their browser to [http://www.ipdl.jpo.go.jp/homepg\\_e.ipdl](http://www.ipdl.jpo.go.jp/homepg_e.ipdl)
- On this website, Applicants selected the hyperlink entitled "Patent & Utility Model Gazette DB (English)."
- On the next page, Applicants entered "A" for the "Kind" and "2000-16965" for the patent number.
- The Applicant then clicked the "Detail" button.
- Applicants then selected "Detailed Description" to obtain a translation of the specification.